Original Research Article

Knowledge, attitude and practice (KAP) of general population of Vadodara towards diabetes mellitus

Sangita Rathod[1], Santosh Kumar[2*], Gunvanti B. Rathod[3], Pragnesh Parmar[4]

[1]Associate Professor, Department of Medicine, AMC MET Medical College, Sheth LG General Hospital, Ahmedabad, Gujarat, India
[2]Assistant Professor, Department of Medicine, SBKS MI & RC, Sumandeep Vidyapeeth, Vadodara, Gujarat, India
[3]Associate Professor, Department of Pathology, GMERS Medical College, Valsad, Gujarat, India
[4]Associate Professor, Department of Forensic Medicine, GMERS Medical College, Valsad, Gujarat, India
[*]Corresponding author email: **santimd25@gmail.com**

Abstract

Background: In today's era lifestyle related diseases like diabetes mellitus, have emerged as a major public health problem. Diabetes mellitus, a common metabolic disorder, which accounts for a high incidence of morbidity leads to various events including micro and macro vascular complications. This study aims to assess the baseline levels of (KAP) knowledge, attitude and practices of general population of Vadodara.

Materials and methods: The present cross sectional study was carried out on general population of Vadodara with the help of a suitably designed and validated KAP questionnaire. The questionnaire was pretested and verified for errors. The data was analyzed statistically.

Results: Altogether, 60.12 % of respondents scored 100% in the questions related with knowledge. However 23.54% scored 100% in the attitude questions and12.80% scored 100% in practice questions.

Conclusions: We can conclude that the responders had good knowledge but poor attitude and practice towards diabetes. We can overcome this by increasing quality of health education and improving applicability of scope of health education at all level.

Key words

KAP, Diabetes mellitus, Vadodara, General population.

Introduction

Diabetes mellitus is believed to be the commonest and most devastating chronic disease in human history. It has afflicted mankind for thousands of years and continues to do so at an exponential rate [1]. Over the past few years, the working patterns have changed, with fewer people involved in manual labor (e.g. as in the agriculture sector) and more and more people opting for physically less demanding office jobs. Another factor for the increase in risk for diabetes mellitus is the 'fast food culture' that has overwhelmed our cities and towns. As the majority of the young working population depends on these unhealthy 'junk foods,' this may partly explain the rise in diabetes incidence in the younger age-groups.

The overwhelming burden of the disease threatens to stunt economic growth and undermine the benefits of improved standards of living and education. Proper education and awareness programs developed according to the need of the society can improve the knowledge of general population and change their attitude [2]. KAP (Knowledge, Attitude and Practice) surveys are effective in providing baseline for evaluating intervention programs [3]. This study aimed to assess the baseline levels of knowledge, attitude and practices of general population of Vadodara towards diabetes.

Materials and methods

The present cross sectional study was carried out on general population of Vadodara with the help of a suitably designed and validated KAP questionnaire. The questionnaire was pretested and verified for errors [4-10]. The questionnaire covered three areas: knowledge, attitude and practice. There were a total of 25 questions, with 14 questions related to knowledge about diabetes, 5 questions to assess the attitude of the patient towards the disease, and 6 questions regarding practices. This questionnaire was filled in at a face-to-face interview with the investigator. In scoring method, twenty five was the maximum possible score in which each correct answer was carry one point and incorrect or unsure answer was carry no point. The interviewer did not in any way try to improve the knowledge of respondents. Gujarati or English version of questionnaire was provided as per requirement of individual.

Results

Most of the respondents (47.0%) were aged 31-40 years, followed by those aged 20-30 years. Most of them (57.4%) were educated up to higher secondary school as per **Table – 1**. The major source of knowledge for the general population was television (32%) and newspaper (30%) followed by family physician (28%). However 10% received information from friends and relatives. Majority were aware about the causes, symptoms and complications of the disease as per **Table – 2**. We observed good score in attitude part of the questionnaire and 96.6% had positive attitude towards exercise as per **Table – 3**. Only 22.8% of responders had their blood sugar checked. Only 17% of responders were able to answer 50% of practice questions correctly as per **Table – 4**.

Discussion

In today's era lifestyle related diseases like diabetes mellitus, have emerged as a major public health problem. Diabetes mellitus, a common metabolic disorder, which accounts for a high incidence of morbidity leads to various events including micro and macro vascular complications [11]. Diabetes is characterized by a state of chronic hyperglycemia resulting from a diversity of etiologies, environmental and genetic, acting jointly [12]. Diabetes affects 10-16 % of urban population and 5.33-6.36 % of rural population and this is projected to double by

2030 [13]. It is now a global epidemic with devastating humanitarian, social and economical consequences. It is an epidemic of 21st century [14]. Total number of people with diabetes is projected to double between 2000 and 2030 [15].

Table - 1: Demographic details of the study population.

Variables		No. of general population	%
Gender	Male	312	62.4
	female	188	37.6
Marital status	Married	492	98.4
	Unmarried	08	7.6
Educational status	Illiterate	30	32.8
	Up to Primary school	164	6.0
	Up to Secondary school	287	57.4
	Graduate	29	5.8
Age (years)	18-20	10	2.0
	21-30	175	35.0
	31-40	235	47.0
	41 or above	80	16.0

Table - 2: Response to knowledge questions.

Sr. No.	Questions	No. of persons with correct answer	%
1	Whether I am aware that diabetes is a disease?	500	100
2	How many types of diabetes?	301	60.2
3	What is the level of blood sugar to diagnose diabetes?	209	41.8
4	Is there positive family history necessary for development of diabetes?	451	90.2
5	Is the infection can lead to diabetes?	316	63.2
6	What are the various symptoms of diabetes?	420	84.0
7	Which is the most correct method of blood sugar estimation?	389	77.8
8	What occur if diabetes is not treated?	405	81
9	Which life style modifications help in diabetes?	441	88.2
10	Why urine examination is needed in diabetes?	358	71.6
11	Which diet is limited in diabetes?	480	96
12	Is exercise having valuable role in diabetes?	464	92.8
13	What is insulin?	400	80
14	What are the complications of diabetes?	396	79.2

In India, the older members of the population who have had diabetes for a relatively long time are protected from risk of diabetic complications because of their physical activity patterns and dietary habits (making healthier food choices), while the current younger generation face high risk of diabetic complications due to a sedentary and stressful lifestyle. Many causes have been postulated for the rise in the number of cases, including urbanization, sedentary lifestyles, poor nutrition and obesity. People with Diabetes mellitus who wish to live normal lives need to know a lot about their illness [16]. Thus, awareness on Diabetes mellitus and its

complication has become an integral and essential part of Diabetes mellitus care for the people in the society.

Table - 3: Response to attitude questions.

Sr. No.	Questions	No. of persons with Correct answer	%
1	Should patient follow a controlled and planned diet to prevent diabetes?	219	43.8
2	Do you think estimation of blood sugar level is important?	315	63.0
3	Should we visit to physician regularly?	403	80.6
4	Do you think regular medication is important in diabetes?	418	83.6
5	Should we exercise regularly for healthy life?	483	96.6

Table - 4: Response to practice questions.

Sr. No.	Questions	No. of persons with Correct answer	%
1	When was your blood pressure measured last?	218	43.6
2	When was your last consultation with your physician?	319	63.8
3	When was your last urine examination done?	102	20.4
4	When did you have your last lipid profile checked?	80	16.0
5	When was your blood sugar level checked last?	114	22.8
6	When did you have gone for exercise last?	115	23.0

Almost 79% of responders answered 65% of the knowledge questions correctly. Still a large proportion of population that is almost 35.4% were not able to score above 10. This is comparable to the results of a study done in Malaysia by Ambigapathy R., et al. [17] who reported 87% respondents able to answer 50% knowledge questions correctly. The lack of proper knowledge of each responder should be given individual attention for good practice and fill the gap of this 10% to 100% as studies report that there is a positive correlation between knowledge and good attitude [17]. Regarding Attitude 21.82% scored above 50% in this study, however, reports from Malaysia revealed good attitude with 98% scoring above 50% [17]. Attitude towards Here we can observe that 96.6% believe that habit of exercise is useful for treatment of diabetes. Many studies have confirmed the beneficial role of physical activity in improving glycemic control. Due to inadequate glycemic control there are high chances of developing complications. Great efforts would be needed by health teams to enhance education and improve the knowledge of the diabetics in our society. There is increasing amount of evidence that patient education is the most effective way to lessen the complications of diabetes [18]. Over all 38 % answered the 50 % of practice questions and only 12.80% scored 100% which was showing poor score for practice whereas Malaysian study revealed 99% answering 50% questions correctly [17]. Monitoring of blood glucose is a simple and practical procedure acceptable for those who can afford it and facilitates the attainment of good glycemic control but unfortunately in our local population the practice was not good as 77.2% responded that their blood sugar level has not been checked in past as per **Table – 4**. Education and counselling about all the aspects of diabetes is needed. Knowledge regarding diabetes forms the basis for informed decisions about diet, exercise, weight control, blood glucose monitoring, and use of medications, foot and eye care, and control of macro vascular risk factors [19]. Group education as well as individualized education programs should be planned which can

lead to better preventive and management techniques in diabetes. The educational programs for the health professionals and paramedical staff are also important because several studies have reported the positive impact of counselling by clinical pharmacists on glycemic control and quality of life outcomes in the diabetic population [20]. Thus there is need for arranging large scale awareness programs for the general population and also to identify and use media to spread the message which could change the attitude of our population in the future.

Conclusion

We found reasonable gap between knowledge, attitudes and practices, so to overcome that it is very important to formulate and implement certain strategies by which positive attitudes can be converted into beneficial practices. We can achieve this by increasing quality of health education and improving applicability of scope of health education at all level.

References

1. Aldasouqi SA, Alzahrani AS. Terminology in diabetes; an example of resistance to change. Saudi Med J, Sep 2004; 25(9): 1289-91.
2. Shera AS, Jawad F, Basit A. Diabetes related knowledge, attitude and practices of family physicians in Pakistan. J Pak Med Assoc, Oct 2002; 52(10): 465-70.
3. Ruzita T, Osman A, Fatimah A. et al. The effectiveness of group dietary counselling among non- insulin dependent diabetes mellitus (NIDDM) patients in resettlement scheme areas in Malaysia. Asia Pacific J Clin. Nutr,. 1997; 2: 84-87.
4. Parmar P, Rathod GB. Study of knowledge, attitude and perception regarding medico-legal autopsy in general population. Int J Med Pharm Sci, Feb 2013; 03(06): 1-6.
5. Rathod G, Parmar P. Comparison regarding knowledge, attitude and practice of blood donation between health professionals and general population. International Journal of Current Research and Review, 2012; 4(21): 114-120.
6. Rathod G, Rathod S, Parmar P, Parikh A. Study of knowledge, attitude and practice of general population of Waghodia towards Diabetes Mellitus. International Journal of Current Research and Review, 2014; 6(1): 63-68.
7. Parmar P, Rathod GB, Rathod S, Goyal R, Aggarwal S, Parikh A. Study of knowledge, attitude and practice of general population of Gandhinagar towards hypertension. International Journal of Current Microbiology and Applied Sciences, 2014; 3(8): 680-685.
8. Parmar P, Rathod GB, Rathod S, Parikh A. Consent in medical practice – Perceptions of patients towards legal aspects of informed consent. IAIM, 2016; 3(4): 105-110.
9. Parmar P, Rathod GB. Knowledge and awareness among general population towards medical negligence. IAIM, 2016; 3(7): 250-254.
10. Parmar P, Rathod S, Parikh A. Perceptions of patients' towards euthanasia – A medico-legal perspective. IAIM, 2016; 3(5): 20-23.
11. Srinivasan AR, Niranjan G, Kuzhandai Velu V, Parmar P, Anish A. Status of serum magnesium in type 2 diabetes mellitus with particular reference to serum triacylglycerol levels. Diabetes Metab Syndr., 2012; 6: 187-189.
12. Epidemiology of chronic non-communicable diseases and conditions. In: Park's Textbook of Preventive and Social Medicine, 20th edition, M/s Banarsidas Bhanot Publishers, Jabalpur, 2009, p. 314-358.
13. Pradeepa R, Mohan V. The changing scenario of the diabetes epidemic: Implications for India. Indian J Med Res, 2002; 116: 121-32.
14. Tabish SA. Is diabetes becoming biggest Epidemic of the twenty first century?

International Journal of health sciences, 2007; 1: 5-8.

15. Upadhyay DK, Palaian S, Shankar PR, Mishra P. Knowledge, attitude and practice about diabetes among diabetes patients in western Nepal. Rawal Med J., 2008; 33(1): 8-11.

16. Stam DM, Graham JP. Important aspects of self management education in patients with diabetes. Pharm Pract Manag Q, 1997; 17: 12-25.

17. Ambigapathy R, Ambigapathy S, Ling HM. A knowledge, attitude and practice (KAP) study of diabetes mellitus among patients attending Klinik Kesihatan Seri Manjung, NCD Malaysia, 2003; 2: 6-16.

18. Mazzuca SA, Moorman NH, Wheeler M. The diabetes education study: A controlled trial of the effects of diabetes education. Diabetes Care, 1986; 9: 1-10.

19. Murata GH, Shaha JH, Adam KD, Wendel CS, Bokhari SU, Solvas PA, et al., Factors affecting diabetes knowledge in Type 2 diabetic veterans. Diabetologia, 2003; 46: 1170-8.

20. Adepu R, Raheed A, Nagavi BG. Effect of patient counselling on quality of life in Type-2 diabetes mellitus patients in two selected south Indian community pharmacies: A study. Indian J Pharm Sci, 2007; 69: 519-24.